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IS 8271-5-7 (1989): Quartz Crystal Units Used for Frequency Control, Part 5: Series CX for Oscillators, Section 7: Quartz Crystal Unit Type CX-07 [LITD 5: Semiconductor and Other Electronic Components and Devices]



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“Knowledge is such a treasure which cannot be stolen”

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Indian Standard

**SPECIFICATION FOR QUARTZ CRYSTAL
UNITS USED FOR FREQUENCY CONTROL
AND SELECTION**

PART 5 SERIES CX FOR OSCILLATORS

Section 7 Quartz Crystal Unit Type CX-07

भारतीय मानक

आवृत्ति नियंत्रण और चयन में प्रयुक्त क्वार्ट्ज क्रिस्टल इकाइयों की विशिष्टि

भाग 5 दोलकों के लिये सीएक्स श्रेणी

खंड 7 क्वार्ट्ज क्रिस्टल इकाई टाइप सीएक्स-07

UDC 621.373.5

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**BUREAU OF INDIAN STANDARDS
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FOREWORD

This Indian Standard (Part 5/Sec 7) was adopted by the Bureau of Indian Standards on 23 February 1989, after the draft finalized by the Piezoelectric Devices for Frequency Control and Selection Sectional Committee had been approved by the Electronics and Telecommunication Division Council.

This standard shall be read in conjunction with IS 8271 (Part 1) : 1981 'Specification for quartz crystal units used for frequency control and selection : Part 1 General requirements and tests (*first revision*)'.

This standard is based on JSS 50909 (1971) 'Detail specification for crystal unit, quartz, styles QC-29, QC-30, QC-31, QC-32, QC-33, QC-34 and QC-35', issued by the Directorate of Standardization, Ministry of Defence, India . The type of quartz crystal unit covered in this standard is equivalent to style QC-30 of JSS 50909 (1971).

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 1960 'Rules for rounding off numerical values (*revised*)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

Indian Standard

SPECIFICATION FOR QUARTZ CRYSTAL UNITS USED FOR FREQUENCY CONTROL AND SELECTION

PART 5 SERIES CX FOR OSCILLATORS

Section 7 Quartz Crystal Unit Type CX-07

1 SCOPE

This standard (Part 5/Sec 7) specifies detail requirements for the characteristics of quartz crystal unit type CX-07 used for frequency control and selection in oscillators.

2 REFERENCES

The following Indian Standards have been referred to in this standard:

IS 4570- (Part 6) : 1983 Specification for crystal unit holders: Part 6 Metal, solder seal, two pin, crystal unit holder type CX

IS 8271 (Part 1) : 1981 Specification for quartz crystal units used for frequency control and selection : Part 1 General requirements and tests (*first revision*)

3 OUTLINE AND DIMENSIONS

Holder outline shall conform to type CX [*see* IS 4570 (Part 6)]-1983.

4 MARKING

See 8 of IS 8271 (Part 1) : 1981.

5 CONSTRUCTION AND WORKMANSHIP

See 7 of IS 8271 (Part 1) : 1981.

6 TEST SCHEDULE AND DETAIL REQUIREMENTS

6.1 General Conditions for Test

See 9.2 of IS 8271 (Part 1) : 1981.

6.2 Test Schedule

The sequence and grouping of type, routine and acceptance tests shall be as given in 9.1 of IS 8271 (Part 1) : 1981.

6.3 Detail Requirements

The detail requirements applicable to this particular type of crystal unit shall be as specified in Table 1.

**Table 1 Detail Requirements of Quartz
Crystal Unit Type CX-07**

Characteristics (1)	Requirements (2)
a) Type of holder	CX (<i>see</i> 1)
b) Frequency range	17 to 62 MHz
c) Frequency tolerance :	
i) Operating temperature range	± 2.5 ppm
d) Load capacitance	Infinity
e) Mode of oscillation	Third mechanical overtone
f) Operating temperature range	-55 to $+105^{\circ}\text{C}$
g) Test set	TS-683/TSM
h) Rated drive level	2.0 ± 0.4 mW
j) Capacitance shunt	7 pF (<i>Max</i>)
k) Resonance resistance	40 ohms (<i>Max</i>)
m) Shock [As per 9.15 (Severity A) of IS 8271 (Part 1) : 1981]	
i) Frequency change permitted	± 5 ppm
ii) Equivalent resistance change permitted.	± 10 percent
n) Vibration [As per 9.16.1 (Severity A) of IS 8271 (Part 1) : 1981]	
i) Frequency change permitted	± 5 ppm
ii) Equivalent resistance change permitted	± 10 percent
p) Ageing:	
Frequency change permitted	± 5 ppm

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